AIDING FABRIC AND GARMENT DESIGNERS IN REDUCING FIRE HAZARD*

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DARE we ask how the apparel industry of the world would stand up under an investigation similar to that to which the automobile industry has recently been subjected? The hazard of flammability in clothing is not an isolated problem. It is not simple and cannot be dissociated from the human being, from his behavior, his use of fire whether for cooking or smoking, from the environment of his own creation. Just as it is impossible to provide automotive equipment that is foolproof—so it is likewise impossible to provide clothing materials that are absolutely fireproof. The problem is certain to become increasingly complex as industrial developments unfold before an increasingly complex society. Take the idea of paper clothing. Trade journals announce its imminent reality. What will be the over-all impact of this new arrival?

As we know, wool still is the most secure and safe fiber in wide use as apparel. Nevertheless the American Wool Council remains constantly alert to the problem of hazard from fire confronting the textile industry. For example, it recognizes that when wool is blended with other more readily ignitable fibers, the relative noninflammability of such a mixture could be seriously impaired.

Research is being conducted throughout the world in regard to such matters. In 1964 Simms, in England, writing in the *Wool Record*, broadly discussed the subject and touched upon those aspects of it to which we believe attention must increasingly be paid. The research directed toward modification of combustible fibers should not cease,

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but I believe that emphasis should now be directed, in addition, elsewhere.

In accepting the request of the American Wool Council to represent wool at this conference, I do so in the full realization that such contributions as might be made would have to grow from a broader base of concept than merely, shall we say, the promotion of wool as a fiber. Actually, there is not enough wool produced in the entire world to take care of merely the incidental clothing needs of mankind. In light of this fact, it is academic to talk about the very real advantages of wool fabric and wool clothing. To meet man's apparel and textile needs, fibers must be obtained from sources other than animal. These other sources are mainly vegetable and synthetic.

In view of this, it has seemed appropriate to reexamine the whole burden of the problem that confronts us and to seek some suitable suggestion that would help in clarifying the over-all need. The American Wool Council has shown in its film on the flammability of fabrics some of the simpler difficulties to which the clothing designer and the prudent housewife, not to mention the physician and the fire marshal, are subjected.

I now offer some ideas on immediate steps that might well be taken.

The large, well-staffed and well-directed research laboratories of the total fiber industry have contributed greatly in the past to our better understanding of the nature of fiber combustibility and, undoubtedly, they will do so in the future. It is to be expected that, as these findings from research are reflected in fiber modification, an important element in the resolving of the problem of flammability will be met.

This however is not the entire issue. One is persuaded that those who are responsible for the design of garments, the construction of draperies and the like, have very much to contribute toward solving the problem, and that not enough has been done in this area. Yet here in the intermediary position between fiber and fabric manufacturer on the one hand, and the retailer on the other, is a most essential part of the industry which, through its possible lack of discrimination in choice of fiber or fabric combinations, can hold the balance between success and failure. Very little organized knowledge is available about the circumstances that occasion and promote fire accidents involving garments and draperies and upholstery. This is regrettable.

It is my view that the first order of importance in any national effort should now be accorded a sound program for gathering information. This should be done for the purpose of demonstrably establishing, in terms of incidence, frequency, circumstances, etc., the kinds of fiber, fabric construction, and especially garment design associated with causing or promoting fires. Such data should be computerized, and this information should then be translated into meanings that will serve our great garment design and manufacturing industry. Our garment and drapery designers and manufacturers, in the presence of a competitive market, can be readily expected to use competent information when it is properly made available to them and translated into trade or commercial terms.

Such a system on a continuing basis would demonstrate its value by quickly pointing out areas of vulnerability as new products are brought on the market. Types of fabric construction most susceptible to hazard might then also become matters of immediate notice and interest to home economists, interior decorators, and architects.

I suggest that the U. S. Public Health Service prepare, with the aid of experts in these fields, a suitable and simple report form to be distributed to hospitals, fire departments, insurance companies, first-aid stations and the like in appropriately selected geographic sample areas. On these forms a detailed description in codified form would be made for return to a central office after each fabric-involved fire. It would list such definable matter as to how fabric appeared to be related to the cause or promotion of the fire and would include suitable descriptive details including, if possible, the country of origin of the garment. This information should be such as to help garment designers, interior decorators, and others in the conduct of their affairs. Let me repeat, these simple forms should be made out for transmission to a center equipped with computers where the data could be made quickly available for significant study. The information so derived, periodically distributed to interested groups such as designers and makers of garments, fabric manufacturers, and the like, can become an instrument for constructive recognition of sore spots and a ready index of areas where changes seem desirable.

A number of years ago a vogue for brushed sweaters of a flammable synthetic fiber resulted in injuries from burning incurred by some of those who wore them, for the sweaters caught fire from lighted ciga-

rets and other such sources of ignition. Had a ready and rapid index of experience been available, much misery might have conceivably been averted.

The laboratories of the fiber producers should continue their very contributive effort along the lines that presently engage them. The time has arrived, however, when garment designers, retailers and others should have before them results of experience with the fibers in actual use. I am persuaded that they will take constructive advantage of any such development and that its results will be reflected in the development of products of a high level of security.